

WHAT IS CLAIMED IS:

1. A drive circuit for controlling a switching device  
ON/OFF, comprising

5 a short circuit detection means that detects short  
circuit of the switching device,

a soft cutoff means that gradually decreases the gate  
terminal voltage of the switching device when short  
circuit is detected by the short circuit detection means,

10 a gate voltage detection means that detects the gate  
terminal voltage of the switching device, and

an ON-pulse retention means that retains the drive  
circuit output ON when the gate terminal voltage detected  
by the gate voltage detection means exceeds a specified  
value.

15 2. A drive circuit for a switching device according  
to Claim 1, further comprising

a gate voltage clamp means that clamps the gate  
voltage of the switching device, wherein

20 the gate voltage clamp means is operated by an output  
signal of the ON-pulse retention means.

3. A drive circuit for a switching device according  
to Claim 1, wherein

the switching device is one with voltage driven sense  
function, which is provided with a gate terminal,  
25 terminal No. 1, terminal No. 2, and terminal No. 3, where  
the main current is applied between the terminal No. 1

and terminal No. 2 and the sense current in proportion to the main current is applied between the terminal No. 1 and terminal No. 3 by applying voltage to the gate terminal, and

5           the ON-pulse retention means retains the drive circuit output ON when the gate terminal voltage detected by the gate voltage detection means exceeds a specified value and also the sense voltage of a sense resistor, connected in series to the terminal No. 3 of the  
10       switching device, exceeds a specified value.

4. A drive circuit for a switching device according to Claim 1, further comprising

a pulse width extension means that extends the pulse width of a pulse signal inputted to the drive circuit.